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IS 13650 (1993): Glass containers for proteinized food [CHD 10: Glassware]

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प्रोटीन युक्त खाद्य पदार्थों के लिए काँच के आधान

Indian Standard

GLASS CONTAINERS FOR PROTEINIZED FOOD

UDC 621.798.147 : 664.38

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

March 1993 Price Group 2

Glassware Sectional Committee, CHD 010

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Glassware Sectional Committee had been approved by the Chemical Division Council.

This standard gives the requirements of glass containers for proteinized foods. In the formulation of this standard assistance has been derived from the information provided by M/s Metal Box Co of India Ltd, Calcutta, which is thankfully acknowledged.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*) '. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

AMENDMENT NO. 1 JULY 2007
TO
IS 13650 : 1993 GLASS CONTAINERS FOR PROTEINIZED FOOD

(*Page* 1, *clause* **2**) — Substitute the following for the existing clause:

'**2 REFERENCES**

The standards listed below contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
2303 (Part 1/Sec 1) : 1994	Grading glass for alkalinity : Part 1 Hydrolytic resistance, Section 1 Hydrolytic resistance of glass grains at 98°C - Method of test and classification (*first revision)*
6654 : 1992	Glass containers - Glossary of terms *(second revision)*
7511 (Part 1) : 1992	Dimensions for neck finishes : Part 1 Shallow continuous thread finish *(second revision)*
7511 (Part 4) : 1986	Dimensions for neck finishes : Part 4 Roll-on threads pilferproof *(first revision)*
7511 (Part 8) : 1986	Dimensions for neck finishes : Part 8 Vacuum lug finish *(first revision)*
9153 : 1978	Methods of polariscopic examination of glassware
10133 : 1982	Specification for glass bottles - Dimensional relationships and tolerances

IS No.	*Title*
10407 : 1983	Method of test for the determination of brimful capacity of glass containers by gravimetric method
11930 : 1986	Methods of thermal shock tests for glass containers'

(Page 2, *clause* **8.1**) — Substitute the following for the existing clause:

'8.1 Limit of Alkalinity

When graded and tested according to the method prescribed in IS 2303 (Part 1/Sec 1), the glass of the containers shall conform to Class HGB 3.

NOTE — This test is applicable to liquid packs only.'

(CHD 10)

Reprography Unit, BIS, New Delhi, India

Indian Standard

GLASS CONTAINERS FOR PROTEINIZED FOOD

1 SCOPE

This standard lays down the requirements and the methods of test for glass containers for proteinized food.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard:

IS No.	*Title*
2303 : 1963	Method of grading glass for alkalinity
6654 : 1982	Glossary of terms relating to glass containers *(first revision)*
7511 (Part 1) : 1986	Dimensions for neck finishes : Part 1 Shallow continuous thread finish (R/3) *(first revision)*
7511 (Part 4) : 1986	Dimensions for neck finishes: Part 4 Roll-on sealed thread pilferproof *(first revision)*
7511 (Part 8) : 1986	Dimensions for neck finishes: Part 8 Vacuum lug finish *(first revision)*
9153 : 1978	Methods of polariscopic examination of glassware
10133 : 1982	Glass bottles — Dimensional relationships and tolerances
10497 : 1983	Method of test for the determination of brimful capacity of glass containers by gravimetric method
11930 : 1986	Method of thermal shock test for glass containers

3 TERMINOLOGY

For the purpose of this standard the terms and definitions given in IS 6654 : 1982 shall apply.

4 NOMINAL PACKING MASS, BRIMFUL CAPACITY AND TOLERANCE ON BRIMFUL CAPACITY

4.1 Nominal packing mass of containers shall be 50, 100, 200, 250, 450, 500, 1 000 and 2 000 g. The brimful capacity and tolerance on brimful capacity shall be as agreed to between the purchaser and the manufacturer.

4.1.1 The brimful capacity shall be tested in accordance with IS 10497 : 1983.

5 SHAPE AND DIMENSIONS

The shape and dimensions of the containers shall be as mutually agreed between the glass the manufacturer and the user.

6 NECK FINISHES

The containers shall have the following neck finishes, depending upon its contents:

Product Form	*Nominal Pack Mass/Value*	*Type of Neck Finishes**
Solids (Granules and Powder)	100 g	53 mm ROSPP† *or* 58 mm R 3† *or* 53 Vacuum lug†
	200 g	58 mm ROSPP *or* 66 mm R 3 *or* 63 Vacuum lug
Liquids	500 ml	25 mm *or* 28 mm ROSPP
	1 000 ml	28 mm *or* 31.5 mm ROSPP

*Jars intended for solid packs, a different type neck finish depending on the type of closure may be used as agreed between the glass manufacturer and the user.

†Refer to IS 7511 (Part 1) : 1986; IS 7511 (Part 4) : 1986 and IS 7511 (Part 8) : 1986.

7 WORKMANSHIP

7.1 The containers shall be made of clear or amber glass and have a smooth surface without cracks, protrusions and bubbles. The containers shall be relatively free from cords, blisters and stones and if these are present, then their intensity shall not impair the visual appeal of the container.

7.1.1 The sealing surface shall be smooth and free from hair-line cracks (split finish), prominent seam marks and waviness.

7.1.2 The container shall be well formed with uniform distribution of glass on the body wall and base avoiding any sharp edge at the bottom.

8 TESTS

8.1 Limit of Alkalinity

When graded and tested according to the method prescribed in IS 2303 : 1963 the glass shall conform to 'Type 4'.

NOTE — This test is applicable to liquid packs only.

8.2 Annealing

The container shall be well annealed and shall not reveal any strain beyond what is shown by strain disc No. 4, when tested as per the method prescribed in IS 9153 : 1978.

8.3 Thermal Shock Resistance

The containers shall pass the thermal shock test when tested according to the method prescribed in IS 11930 : 1986. The temperature differential (t_1 — t_2) shall be 40°C minimum.

NOTE — This test is applicable to liquid packs only.

8.4 Vertically

The shape of the bottle shall be such that when the bottom of the container rests on a flat surface the glass neck sealing surface shall remain parallel to the base. A vertical line through the centre of the circle formed by the neck opening shall pass through the centre of the circle described by the bottom resting surface. The maximum permissible variation in verticality when tested according to the method given in IS 10133 : 1982 shall not exceed the values specified in IS 10133 : 1982.

NOTE — This test is applicable to 500 ml and 1 000 ml bottles for liquid packs only.

8.5 Planity of Sealing Surface

The waviness of the sealing surface measured from peak to trough shall not be greater than 0.4 mm when checked according to the procedure described in Annex A.

NOTE — This test is applicable to jars for solid packs only.

9 MARKING AND PACKING

The glass jars and bottles shall be suitably packed and marked with Standard Mark.

ANNEX A

(*Clause* 8.5)

METHOD OF CHECKING PLANITY DEVIATION OF SEALING SURFACE IN GLASS JARS

A-0 The uniformity of sealing surface in wide mouthed glass jars is very important as the cap gasket and/or the secondary safety seal is compressed against this surface to achieve leakproof seal and the cap is only capable of taking on a limited, namely, 0.3 mm overall variation. This procedure describes the method of checking this variation or non-uniformity of the glass sealing surface resulting from waviness or bumps.

A-1 APPARATUS

A-1.1 The following apparatus is required for testing:

a) Standard surface plate or 6 mm thick plane glass plate.

b) Feeler gauge set ranging from 0.5 mm to 0.64 mm.

A-2 PROCEDURE

A-2.1 Invert the empty glass jar to be measured, placing the sealing surface on the top of the surface plate or glass plate.

A-2.2 Lightly press down on the base of the container on opposite side of measurement.

A-2.3 Insert the feeler gauge (starting from 0.05 mm) between the glass sealing surface and the surface plate until the thickest possible feeler gauge just slides in.

NOTE — The feeler gauge should not be forced in.

A-2.4 Record the maximum clearance obtained between the glass sealing surface and the surface plate by rotating the jar through 360°, while keeping the base of the jar lightly pressed on the opposite side of measurement.

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